



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,308	08/20/2001	Peter Krummrich	112740-243	7463

29177 7590 10/24/2003
BELL, BOYD & LLOYD, LLC
P. O. BOX 1135
CHICAGO, IL 60690-1135

EXAMINER

HUGHES, DEANDRA M

ART UNIT PAPER NUMBER

3663

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,308

Applicant(s)

KRUMMRICH, PETER

Examiner

Deandra M Hughes

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-2 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maxham (US 6,411,407) in view of Abate (US 6,411,414), Dipasquale (US 6,437,906) and *Freeman* (US 6,236,498).

With regard to claims 1 and 7, Maxham discloses:

- a modular base amplifier arrangement (30) having a preamplifier stage (43a) and;
- a high power amplifier stage (27 – please note that a post amplifier is a power amplifier) connected to the at least one amplifier stage (43a) of the base amplifier arrangement and having an active fiber (the pre-amp and the post-amp are EDFAs; see col. 4, line 12) at least one pump signal source (1480 pump).

Maxham does not specifically disclose that the arrangement is based on single mode technology. However, Abate teaches single mode optical amplifiers (col. 2, lines 50-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a single mode optical fiber for the advantage of greater optical power (as is specifically taught by Abate in line 45 of col. 2).

Maxham also does not specifically disclose that the preamplifier stage has a first amplifier stage and a second amplifier stage. However, Dipasquale teaches that a

Art Unit: 3663

traditional pre-amplifier structure has two amplifier stages (fig. 5, #509 and #513). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use two amplifier stages for the advantage of employing a traditional pre-amplifier structure.

Further, Maxham does not specifically disclose that the post amplifier *has two pump signal sources*. However, Freeman specifically teaches upgrading a power amplifier (aka post amplifier) with an additional pump source, i.e. totaling two pump sources (col. 5, lines 10-25 and fig. 1 pump connectors 52A and 54A). It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the pump power to the post amplifier for the advantage of higher channel capacity (col. 5, line 21).

With regard to claims 2 and 8-9, Freeman teaches that the high power stage (post amplifier stage) consists of two high-power amplifier stages (fig. 1, 14 and 16) separated by a serially connected filter (fig. 8, #115). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the advantage of upgrading the power amplifier (col. 4, lines 1-21).

Allowable Subject Matter

3. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 3663

Response to Arguments

4. Applicant's arguments with respect to claims 1-2 and 7-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

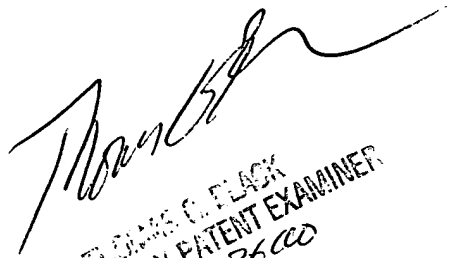
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Inagaki (US 6,603,596), Wysocki (US 6,556,340), and Krummrich (US 6,452,722) teach upgradeable optical amplifier modules.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Black can be reached on 703-305-9707. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


DMH


THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 3663